

SEQUENCE LISTING

SEQ ID NO:1

Mouse Melanopsin cDNA

1 cactcattcc tttgcgcttc attggacatt aagcagtca g cagccaaag agcagctcca
5 61 ggctggatgg atgagagccg gcagcagggt gaccaggccg cagggttaag gatggtatag
121 agccggaagt ctggggacgg atccctgatc tttccatggc cttagctct ctgagagct
181 gagcatggac tccctttag gaccaagagt cttgtcaagc ttaactcagg atcccagctt
241 cacaaccagt cctgccctgc aaggcattt gAACGGCACT cagaacgtct ccgtaaagac
301 ccagcttctc tctgttagcc ccacgacatc tgacatcag gctgctgcct gggccccctt
361 ccccacagtc gatgtcccg accatgctca ctataccctt ggcacggta tcctgcttgt
421 gggactcaca gggatgctgg gcaatctgac ggtcatctac accttctgca ggaacagagg
481 cctgccccaca ccagcaaaaca tgttcatcat caacctcgca gtcagcgact tcctcatgtc
541 agtcaactcag gccccggctt tcttgccag cagcctctac aagaagtggc tctttgggg
601 gacaggttgc gagttctatg cttctgcgg ggctgtctt ggcatactt ccatgatcac
661 cctgacagcc atagccatgg accgctatct ggtgatcaca cgtccactgg ccaccatcg
721 cagggatcc aaaagacgaa cggcactcg cctgcttaggc gtctggctt atgccctggc
781 ctggagtcg ccacccctt ttgggtggag tgcctacgtg cccgaggggc tgctgacatc
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1081 tcttccttc gtgctgtcct gggctccctt ctccactgtg gctctggcctt ccttgcgtgg
1141 atactcgcac atcctgacgc cttacatgag ctcggtgcca gccgtcatcg ccaaggcttc
1201 tgccatccac aatccatata tctacgccc cactcacccc aagtacaggg tggccattgc
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1321 cctcaactac cgctctaccc accgctccac attgagcagc cagtcctcg acctcagctg
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1441 cacagaaaca accgctgcat ggggagctgc ccagcaagca agtggacagt cttctgcag
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1681 tccccatccc catacatccc agttccctt tgcttccta gaggatgtg tgactctcg
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2101 gagaacactt gtagctatta aaagaaggcc agtgc
40

SEQ ID NO:2

Mouse Melanopsin polypeptide

MDSPSGPRVLSSLTQDPSFTTSPALQGIWNGTQNVSRAQLLSV
45 SPTTSAAHQAAA WVPFPTVDVPDHAYTLGTVILLVGLTGMLGNLTIVYTFCRNRGLRT
PANMFIINLA VSDFLMSVTQAPVFFASSLYKKWLFGETGCEF YAFCGAVFGITSMITL
TAIAMDRYLVI TRPLATIGRGSKRRTALVLLGVWLYALAWSLPPFGWSAYVPEGLLT
SCSWDYMTFTPQVRAYTMLLFCFVFFLPLLIIIFCYIFIFRAIRETGRACECGGESPL
RQR RQWQRLQSEW KMAKVALI VILLFVLSWAPYSTVALVAFAGYSHILTPYMSSVPAV
50 IAKASAIHNPIIYIAITHPKYRVIAQHLPCLGVLLGVSGQRSHPSLSYRSTHRSTLSS
QSSDLSWISGRKRQESLGSESEVGWTDTETTA AWGAAQQASQSFCSQNLEDGEKLAS
SSPVQVRSKTPKVPGPSTCRPMKGQGAR PSSLRGDQKGR LAVCTGLSEC PHPHTSQFP
LAFLEDDVTLRHL

55 SEQ ID NO:3

Human Melanopsin cDNA

1 cggacacagg agaaaggcgc gggtaggctt agcagggggtt ctgaggatgg aggaaagtt
61 ggaggctgat cacagctgaa gtcctgtggcc ttgacttctc tgtggctcg

121 agcaaggacc atcccaactc agatgaacc ctccattcg ggccaagagtc cggcccagcc
 181 caacccaaga gcccagctgc atggccaccc cagcaccacc cagctgggtgg gacagctccc
 241 agagcagcat ctccagcctg ggccggcttc catccatcg tcccacagca cctgggactt
 301 gggctgctgc ctgggtcccc ctccccacgg ttgatgttcc agaccatgcc cactataccc
 361 tggcacaagt gatcttgctg gtggactca cggggatgt gggcaacctg acggtcatct
 421 ataccttctg caggagcaga agcctccgga cacctgcca catgttcatc atcaaccctcg
 481 cggtaagcga cttcctcatg tccttcaccc aggcccctgt ctcttcacc agtagcctct
 541 ataagcagtg gctcttggg gagacaggct gcgagttcta tgcttctgt ggagctctct
 601 ttggcatttc ctccatgatc accctgacgg ccatgcacct ggaccgctac ctggtaatca
 661 cacgcccgt gcccacctt ggtgtggcgt ccaagaggcg tgccgcattt gtcctgtgg
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 781 tgcccgggg gttgctgaca tcctgtctt gggactacat gagcttcacg ccggccgtgc
 841 gtgcctacac catgcttctc tgctgttctg tgcttcttcc ccctctgtt atcatcatct
 901 actgctacat cttcatctc agggccatcc gggagacagg acgggctctc cagacccctcg
 961 gggctgcaa gggcaatggc gagtccctgt ggcagcggca gcgctgcag agcgagtgca
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 1141 cggtggccagc cgtcatcgcc aaggcctctg caatccacaa ccccatcatt tacgccccatca
 1201 cccaccccaa gtacagggtg gccattgccc agcacctgccc ctgcctgggg gtgctgtgg
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 1441 agcaagcaaa tggcggttcc ctctacggc agggcttggaa ggacttggaa gccaaggcac
 1501 ccccccagacc ccaggggacac gaaggagaga ctccaggaa gaccaagggg ctgatcccc
 1561 gccaggaccc caggatgtg gacgcccact ggctctccct ttcttctgag acacatccag
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 1741 ccacacccca aaactccctgc cccataacgt cctccgcattt cactttccag ctcagcagcc
 1801 gcaccggagg ctcaagctgaa ggggtgtgtg ccaggccct cccacttccc gagttgtctg
 1861 cctctccca aatgtgtgt gctgcaattt tccaggcgat gacaatggtg atggctccag
 1921 agaacacacc agctatttat gagctctgc cccaggctg ggctgtcac tggcatagga
 1981 aggccagccc cgcacatctccc actgcaaca gctgaaggcg agcacagacc tcccttgc
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 2101 cattttgtg caccggggca tttgcaggca cgctctcgcg tagttaccta tctgaatgca
 2161 caccaaggcac atgcgtgcac actctgcgtc tttgttccat ttcattgtat ggtctaagct
 2221 cctcccgagg ctgtgtggat ctgacagggt ataggaaaat aaaaagcgga gaagggtgt
 2281 tcag

40 SEQ ID NO:4

Human Melanopsin polypeptide

MNPPSGPRVPPSPTQEPSCMATPAPPSSWDSSQSSISSLGRLPS
 ISPTAPGTWAAAWVPLPTVDVDPDHAYTLGTVILLVGLTGMLGNLTIVYTFCRSRSLR
 TPANMFIIINLAVSDFLMSFTQAPVFFTSSLYKQWLFGETGCEFYAFCGALFGIISMIT
 45 LTAIALDRYLVITRPLATFGVASKRRAAFVLLGVWLALAWSLPPFFGWSAYVPEGLL
 TSCSWDYMFTAVERAYTMLLCFVFFLPLLIIIYCYIFIFRAIRETGRALQTFGACK
 GNGESLWQRQRLQSECKMAKIMLLVILLFVLSWAPYSAVALVAFAGYAHVLTPYMSV
 PAVIAKASAIHNPIIYIAITHPKYRVAIAQHLPCLGVLLGVSRHSRPYPSYRSTHRST
 LTSHTSNLSWISIRRRQESLGSESEVGWTHMEAAAVWGAAQQANGRSLYGQGLEDEA
 50 KAPPRPQGHEAETPGKTKGLIPSQDPRM